QP Code: R253B099 | Reg. No | | | | | | | | | | | AY 24

Gandhi Institute of Engineering and Technology University, Odisha, Gunupur
(GIET University)

M. Tech. (Third Semester - Regular) Examinations, December – 2025

24MCTOE23001 – Cost Management of Engineering Projects

(common for CTM & SE)

Time: 2 hrs | Maximum: 60 Marks

Answer ALL questions

(The figures in the right hand margin indicate marks)

PART – A **(2 x 5 = 10 Marks)**

Q.1. Answer ***ALL*** questions	CO #	Blooms Level
a. State one benefit of using VE in construction.	CO1	K1
b. Explain life cycle cost with one suitable example.	CO2	K1
c. Mention two tools used for cost control in construction.	CO3	K1
d. Differentiate between preliminary estimate and detailed estimate.	CO4	K1
e. What is Earned Value Management (EVM)?	CO5	K1

PART – B **(10 x 5 = 50 Marks)**

Answer ***ALL*** the questions	Marks	CO #	Blooms Level
2. a. Define cost management and explain its significance in the success of large-scale civil engineering projects.	5	CO1	K2
b. Discuss the phases of the cost management process and their interrelation within project planning and control.	5	CO1	K3
(OR)			
c. Explain the different types of costs applicable to construction projects with suitable examples.	5	CO1	K2
d. Evaluate the role of life cycle costing (LCC) in sustainable project decision-making.	5	CO1	K3
3.a. Compare and contrast cost management frameworks such as PMBOK, PRINCE2, and FIDIC guidelines.	5	CO2	K2
b. . Illustrate how digital cost management and BIM-based tools enhance accuracy in cost control.	5	CO2	K4
(OR)			
c. . Examine the impact of sustainability and green building practices on project cost estimation and control.	5	CO2	K3
d. . Design a conceptual framework for integrating environmental costs into project planning.	5	CO2	K3
4.a. Describe various cost estimation techniques and identify their applicability in different project scenarios.	5	CO3	K3

b.	Develop a step-by-step process for preparing a detailed cost estimate for a multi-storey building project.	5	CO3	K2
	(OR)			
c.	Explain the principles of risk-adjusted cost estimation and demonstrate its practical significance.	5	CO3	K3
d.	Compare deterministic and probabilistic estimation techniques with suitable construction examples.	5	CO3	K2
5.a.	Discuss the integration of BIM, GIS, and AI in modern cost estimation systems.	5	CO4	K3
b.	Perform a rate analysis for reinforced concrete work, highlighting key influencing factors.	5	CO4	K3
	(OR)			
c.	Analyze the effect of cost escalation and indices on the overall project cost.	5	CO4	K2
d.	Prepare a sample abstract estimate for a bridge construction project using standard schedule of rates (SSR).	5	CO4	K3
6.a.	. Explain the concept and methodology of Value Engineering (VE) and its relevance in cost reduction.	5	CO5	K3
b.	Illustrate the phases of the value engineering process using a real-life infrastructure project.	5	CO5	K2
	(OR)			
c.	Discuss the application of linear programming in cost optimization problems.	5	CO5	K3
d.	Differentiate between cost reduction and cost optimization with appropriate examples.	5	CO5	K3

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